



Arundo donax L. (Giant reed) Use by Turkish Cypriots

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Research

Abstract

A survey about the traditional uses of *Arundo donax* L. (Giant reed) by Turkish Cypriots was carried out. Sixty inhabitants from 25 areas were interviewed about the vernacular names, plant part used and forms of usage. Twenty-seven ways of utilizing this plant were recorded. The ethnobotanical importance of *Arundo* should be considered in the management of this plant.

Introduction

“Utility of a plant to humans is related to: (1) abundance and distribution of the plant; (2) length of time the plant and a human group have been in contact; (3) invention or transmission of traditional ecological knowledge of the taxon; (4) ease of managing, acquiring, and processing the plant; (5) physical and chemical qualities of the plant (e.g., pharmaceutical or toxicological properties, fiber characteristics, nutritional composition); and (6) availability and quality of alternate taxa.” (Kiviat & Hamilton 2001)

About twelve species belonging to the genus *Arundo* are widely distributed in tropical and warm-temperate regions (Meikle 1985). One of these, *Arundo donax* L., is considered indigenous to the Mediterranean Basin (Hickman 1993, TNC 1996) and to warmer regions of the Old World (Munz & Keck, 1959, Robbins *et al.* 1951). It is found in low gradient river courses and may provide useful wildlife habitat in greatly altered river deltas (Granval *et al.* 1993, He *et al.* 1991).

This species has played an important role in the culture of the western world through its influence on the development of music, which can be traced back 5000 years. The basis for the origin of the most primitive pipe organ, the Pan pipe or syrinx, was made from *A. donax*. Reeds for woodwind musical instruments are still made from the

culms and no satisfactory substitutes have been developed (Merzouki *et al.* 2000, Perdue 1958). Even before its musical qualities were appreciated, Egyptians used *A. donax* to line the floor and walls of underground grain stores. Mummies of the fourth century A.D. were wrapped in *Arundo* leaves. Other uses for *A. donax* include basket-work, garden fences and trellises, chicken pens, crude shelters, fishing rods, arrows, erosion control, livestock fodder, pulp and ornamental plants, also the culm is used in building a structural support for grape vines. The leaves were used as stuffing for pillows or mattresses. The culm and rhizomes are still used for walking sticks and the woven culm was used to build a “poor man’s” grain bin (Pieroni & Quave 2006). Medicinally, the rhizome has been used as a sudorific, a diuretic, an antilactagogue and in the treatment of dropsy (Perdue 1958) and the white hemicellulose membrane (located at the nodes) of the stem, are used to stuff wounds as a haemostatic and also to treat herpes outbreaks on the lips (Pieroni & Quave 2006).

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Arundo donax was brought to North America where it became abundant by 1820 in the Los Angeles River, where it was harvested for roofing material and fodder (Robbins *et al.* 1951). Commercial plantations exist in California based on cane use for musical instrument production. Horticultural propagation is widely conducted, and varieties of *Arundo* are available and commonly used in gardens or for erosion control (Brenzel 1967, Loewer 1995).

Arundo donax is the only species of *Arundo* found in Cyprus. It is widespread and locally abundant in the northwestern part of the island, around riverbeds and lakes. It was grown especially around citrus groves as a shelter for wind, in order to protect flowers. This way of usage increased its availability and locals used it to produce equipment for their daily lives. A literature review on the uses of *A. donax* by Turkish Cypriots revealed that there was a lack of information on this subject. Some uses of *Arundo* (matting, basketry, etc.) are similar to uses of *Phragmites* spp. and *Typha* spp., whereas other uses (shelter for wind, roofing) are related to the special qualities of *Arundo* which are rarely found in other robust graminoids. It became obvious that *A. donax* was confused with *Typha* and *Phragmites* and vernacular names of different uses of *A. donax* were applied to *Typha* and *Phragmites* and vice

versa. Therefore, in this paper we investigated the use of *A. donax* by Turkish Cypriots.

Materials and Methods

Sixty subjects, 30 males and 30 females, belonging to 5 age groups (10-18, 19-35, 36-50 and 50+) from 25 areas were interviewed about the vernacular names, plant part used and ways of usage in the Turkish Cypriot community in the northern part of Cyprus. In order to reduce errors, the interviews were conducted with the aid of plant samples.

Collection of the information started from the local markets, where the products were sold. Then we interviewed the producers at their villages or towns. During the interviews, they were asked to provide information about the types of usage of *A. donax* and to recommend other subjects to be interviewed.

Results

Our results showed that *A. donax* is widely used and with greater diversity of uses in the northwest of Cyprus. A total of 27 types of uses were recorded (Table 1.). All plant

Table 1. Uses of *Arundo donax* L. reported from interviews with Turkish Cypriots in northwest Cyprus.

Use	Turkish Cypriot Name	Plant Part	Frequency	Age groups of subjects
Baskets	Sepet	Culm	100%	All
	Köfün			
Candy bowl	Yemişlik	Culm	100%	All
Chandelier	Avize	Culm	100%	All
Fruit/Vegetable bowl	Sebzelik/Meyvelik	Culm	100%	All
Mat	Hasır	Culm	100%	All
Support for climbing plants	Sarılcı bitkilere destek	Culm	100%	All
Table	Masa	Culm	100%	All
Fishing equipment	Olta	Culm	80%	All
Fence	Çit	Culm	70%	All
Laundry basket	Çamaşır sepeti	Culm	70%	All
Musical instruments	Dilli düdük	Culm	60%	All
Knife	Tarhana bıçağı	Culm	40%	19<
Roofing	Çatı materyali	Culm	40%	All
Shelter construction (for sun)	Galif	Above ground parts	40%	19<
Shelter construction (for wind)	Rüzgar koruması	Whole plant	30%	19<
Distaff	Kecefe	Culm	20%	35<
Heddle	Tezgahtarağı	Culm	20%	35<
Stick to unspun thread	İlgidir	Culm	20%	35<
Weaving rod, spool	Gelemgen	Culm	20%	35<

Use	Turkish Cypriot Name	Plant Part	Frequency	Age groups of subjects
Bread or Cheese basket and a cover	Tabaca	Culm	10%	35<
Chicken coop for transport	Köfe	Culm	10%	35<
Door covering	Kapı perdesi	Culm	10%	50+
Protective cover	Iriza	Culm	10%	35<
Container for kohl	Sürmelik	Culm	5%	50+
Toy (squirt gun)	Fitsigla	Culm	5%	50+
(kite)	Uçurgan, Uçurtma			

parts are used, with the culm being the most important. The use of *A. donax* was more popular among the older generation.

The plant was grown especially around citrus groves as a shelter for wind. Another use was to place the green, above-ground parts on top of a shelter and to secure them with ropes to produce shade. Moreover, when the culm was the main material, it was used when it was wet, and easy to shape. It was used as a whole or divided horizontally into two or three equal parts according to its diameter.

Discussion

The importance of a plant species to a society may be assessed by the development of culture associated with collection and processing, as well as by the diversity of uses. The technological importance of *Arundo* in non-industrial settings is related to the characteristics of the plant, especially, the culms, which are strong, hollow, lightweight, buoyant, rapidly growing and durable. These characteristics, and hence many of its uses, are unusual for an herbaceous plant.

The use of *A. donax* in Cyprus is declining, due to two main reasons. The first one is the rapidly changing lifestyles with the development of technology as a result of which people use technological materials instead of traditional ones. As an example of this, we found that the younger generation, from 40 years old and younger, is not aware of half of the methods.

The second reason is the reduction in the availability of *Arundo*. The need for *Arundo* as a wind screen to protect flowers from wind and increase fruit yield, is decreasing as a result of the replacement of orange orchards into less water demanding crops (Iverson 1994, Perdue 1958).

We found that women and men had the same level of knowledge about traditional uses while in villages subjects were more aware than in towns. This is probably because most subjects in the villages were over 40 years old who still use traditional materials which are less costly.

Conservation strategies to protect this species should also promote the production and sale of traditional household utensils and equipment to tourists as an example of the island's culture.

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